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EXAMINER	
HO, CHUONG T	

ART UNIT	PAPER NUMBER
2619	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.Schaumburg@motorola.com
APT099@motorola.com

Office Action Summary	Application No.	Applicant(s)	
	10/014,676	BONTA, JEFFREY D.	
	Examiner	Art Unit	
	CHUONG T. HO	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,9-13 and 16-21* is/are rejected.

7)☒ Claim(s) *4-8,14-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The amendment filed 11/08/07 have been entered and made of record..

2. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 1-21 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dehner et al. (U.S.Patent No. 6,882,677 B2) in view Shibutani (US 2002/0173303 A1).

Regarding to claim 1, Dehner et al. discloses defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal (see col. 8, lines 53-58) (see col.1, lines 13-30, Wireless LANs (WLANs) such as Bluetooth, Home RF, 802.11, ...these networks are designed and constructed to provide adhoc wireless network....Essentially, in part to keep the networks simple and inexpensive, provisions for mobility management, such as handoff from one coverage area to another that may be considered and present in and associated with wide are networks (WLANs) such as cellular phone systems have not been included in WLAN) (see col. 4, lines 55-56); comprising:

Establishing communication between a source mobile subscriber unit and a destination unit; if establishing communication between a source mobile subscriber unit and a destination unit when the source mobile subscriber unit is outside of the neighborhood cell; switching over to ad hoc wireless network coverage when the source mobile subscriber unit enters the neighborhood cell (col. 1, lines 25-35, handoff from one coverage area (cellular phone or ad hoc) to another that may be considered and present in and associated with wide area networks (WANs) such as cellular phone systems have not been included in WLAN specification and systems....providing continuous service or WLAN access to user devices as they roam or more (handoff) through the coverage areas (cellular phone or ad hoc) of multiple network access points).

Establishing of communication between a source mobile subscriber unit and destination unit is achieved through the ad hoc wireless network coverage when the source mobile subscriber unit is within the neighborhood cell, switching over to the wide area network coverage when the source mobile subscriber mobile unit exist the neighborhood cell (col. 1, lines 25-35, handoff from one coverage area (cellular phone or ad hoc) to another that may be considered and present in and associated with wide area networks (WANs) such as cellular phone systems have not been included in WLAN specification and systems....providing continuous service or WLAN access to user devices as they roam or more (handoff) through the coverage areas (cellular phone or ad hoc) of multiple network access points)

However, Dehner et al. is silent to disclosing defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter.

Shibutani discloses defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150), switching over (from the network 150b to the network 150a) when the source mobile subscriber unit (MT 135) enters the cell 150a ([0042] when the module M1 becomes ready, the module M2 is switched to the module M1 to continue the communication) to maintain the communication between the source mobile subscriber unit and the destination unit ([0048], the network 150b may become necessary to make a call to the MT 135. A call from the network 150b is initiated by delivering a first packet from network 150b to the network 150a. The network 150a obtains the information on the current location of the MT 135 from the HLR and delivers the packet to the MT 135 through the nearby BTS 155 forms the cell in which the MT 135 is currently located).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to delivery defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter in order to access both ad hoc network and wireless network..

5. In the claim 2, Dhner disclosesif the establishing of communication between a source mobile subscriber unit and a destination unit is achieved through wide area network coverage when the source mobile subscriber unit is outside of the neighborhood cell, switching over to the ad hoc wireless network coverage.

However, Dhner is silent to disclosing switching over to the ad hoc wireless network coverage when the source mobile subscriber receives a last hop probing signal indicating that the source mobile subscriber unit has entered the neighborhood cell to maintain the communication between the source mobile subscriber unit and the destination unit.

Shibutani discloses defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the

surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150), switching over (from the network 150b to the network 150a) when the source mobile subscriber unit (MT 135) enters the cell 150a ([0042] when the module M1 becomes ready, the module M2 is switched to the module M1 to continue the communication) to maintain the communication between the source mobile subscriber unit and the destination unit ([0048], the network 150b may become necessary to make a call to the MT 135. A call from the network 150b is initiated by delivering a first packet from network 150b to the network 150a. The network 150a obtains the information on the current location of the MT 135 from the HLR and delivers the packet to the MT 135 through the nearby BTS 155 forms the cell in which the MT 135 is currently located).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to delivery defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter in order to access both ad hoc network and wireless network.

6. Regarding to claim 3, Dehner et al. disclose the limitations of the limitations of claim 1 above.

However, Dehner et al. is silent to disclosing one or more last hop nodes within the neighborhood cell each comprised of a mobile subscriber unit within the neighborhood cell to regulate data packet traffic between the source mobile subscriber unit and the destination unit during the communication between the source mobile subscriber unit and the destination unit.

Shibutani discloses one or more last hop nodes within the neighborhood cell each comprised of a mobile subscriber unit within the neighborhood cell to regulate data packet traffic between the source mobile subscriber unit and the destination unit during the communication between the source mobile subscriber unit and the destination unit ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs) ([0048], the network 150b may become necessary to make a call to the MT 135. A call from the network 150b is initiated by delivering a first packet from network 150b to the network 150a. The network 150a obtains the information on the current location of the MT 135 from the HLR and delivers the packet to the MT 135 through the nearby BTS 155 forms the cell in which the MT 135 is currently located).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes one or more last hop nodes within the neighborhood cell each comprised of a mobile subscriber unit within the neighborhood cell to regulate data packet traffic between the

source mobile subscriber unit and the destination unit during the communication between the source mobile subscriber unit and the destination unit. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to delivery defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter in order to access both ad hoc network and wireless network.

7. Claims 9-10, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dehner (U.S.Patent No. 6,882,677 B1)) in view Shibutani (US 2002/0173303 A1), and in further view of Kotzin et al. (Patent Number: 6,108,322).

In the claim 9, Dehner discloses switching over to ad hoc wireless network coverage to maintain the data packet route to the destination unit upon determining that the data packet is being disrupted and upon entry into a defined neighborhood cell (col. 1, lines 25-35, handoff from one coverage area (cellular phone or ad hoc) to another that may be considered and present in and associated with wide area networks (WANs) such as cellular phone systems have not been included in WLAN specification and systems....providing continuous service or WLAN access to user devices as they roam or more (handoff) through the coverage areas (cellular phone or ad hoc) of multiple network access points).

However, Dehner et al. is silent to disclosing the switching over further conditioned on receiving a localized wireless area identifying signal and determining whether service is available and authrorized in the defined neighborhood cell.

Shibutani discloses the switching over further conditioned on receiving a localized wireless area identifying signal and determining whether service is available and authrorized in the defined neighborhood cell ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150), switching over (from the network 150b to the network 150a) when the source mobile subscriber unit (MT 135) enters the cell 150a ([0042] when the module M1 becomes ready, the module M2 is switched to the module M1 to continue the communication) to maintain the communication between the source mobile subscriber unit and the destination unit ([0048], the network 150b may become necessary to make a call to the MT 135. A call from the network 150b is initiated by delivering a first packet from network 150b to the network 150a. The network 150a obtains the information on the current location of the MT 135 from the HLR and delivers the packet to the MT 135 through the nearby BTS 155 forms the cell in which the MT 135 is currently located).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to delivery defining a neighborhood cell by transmitting a localized wireless coverage area-identifying signal from a neighborhood cell transmitter in order to access both ad hoc network and wireless network.

However, the combined system (Dehner – Shibutani) are silent to disclosing establishing a data packet route to a destination unit through wide area network coverage; determining whether a predetermined number of network frame errors have been received subsequent to the establishing of a wide area communication route to a destination unit through a wide area network coverage mode of operation.

Kotzin et al. disclose establishing a data packet route to a destination unit through cellular network coverage; determining whether a predetermined number of network frame errors have been received subsequent to the establishing of a communication route to a destination unit through a cellular network coverage mode of operation (col. 4, lines 12-15, the mobile unit determines whether communication is interrupted at a step 406. Communication could be interrupted for example when the bit error rate or frame error rate calculated by control circuit 203 exceed a certain value....The mobile then determines whether a stronger base is available at a step 410. As will be described in more detail in reference to the remaining figures, the mobile unit

could determine that a stronger base station is available by maintaining a list of signal strength of new base station.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Dehner – Shibutani) with the teaching of Kotzin to establish a data packet route to a destination unit through cellular network coverage; determining whether a predetermined number of network frame errors have been received subsequent to the establishing of a communication route to a destination unit through a cellular network coverage mode of operation in order to enabling handoff in a wireless communication system.

8. In the claim 10, Dehner discloses the limitations of claim 9 above. However, Dehner is silent to disclosing comprising re-establishing the data packet route to the destination unit through the wide area network coverage within the defined neighborhood cell upon leaving a coverage hole within the neighborhood cell.

Shibutani discloses re-establishing the data packet route to the destination unit through the wide area network coverage within the defined neighborhood cell upon leaving a coverage hole within the neighborhood cell ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the

MT 135 is authorized to communicate within the network 150), switching over (from the network 150b to the network 150a) when the source mobile subscriber unit (MT 135) enters the cell 150a ([0042] when the module M1 becomes ready, the module M2 is switched to the module M1 to continue the communication) to maintain the communication between the source mobile subscriber unit and the destination unit ([0048], the network 150b may become necessary to make a call to the MT 135. A call from the network 150b is initiated by delivering a first packet from network 150b to the network 150a. The network 150a obtains the information on the current location of the MT 135 from the HLR and delivers the packet to the MT 135 through the nearby BTS 155 forms the cell in which the MT 135 is currently located).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes re-establish the data packet route to the destination unit through the wide area network coverage within the defined neighborhood cell upon leaving a coverage hole within the neighborhood cell. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to re-establish the data packet route to the destination unit through the wide area network coverage within the defined neighborhood cell upon leaving a coverage hole within the neighborhood cell in order to access both ad hoc network and wireless network.

9. In the claim 11, Dehner discloses during the ad hoc wireless network coverage (see col. 1, line 15).

However, Dehner is silent to disclosing communicating with one or more stationary last hop nodes within the neighborhood cell to enable data packets transmitted on the data packet route to be multiplexed with other subscriber unit data packets onto a single channel for transmission to a wide area network.

Shibutani discloses communicating with one or more stationary last hop nodes (see figure 1, the access point) within the neighborhood cell to enable data packets transmitted on the data packet route to be multiplexed with other subscriber unit data packets onto a single channel for transmission to a wide area network ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150), switching over (from the network 150b to the network 150a) when the source mobile subscriber unit (MT 135) enters the cell 150a ([0042] when the module M1 becomes ready, the module M2 is switched to the module M1 to continue the communication) to maintain the communication between the source mobile subscriber unit and the destination unit ([0048], the network 150b may become necessary to make a call to the MT 135. A call from the network 150b is initiated by delivering a first packet from network 150b to the network 150a. The network 150a obtains the information on the current location of the

MT 135 from the HLR and delivers the packet to the MT 135 through the nearby BTS 155 forms the cell in which the MT 135 is currently located).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes communicating with one or more stationary last hop nodes within the neighborhood cell to enable data packets transmitted on the data packet route to be multiplexed with other subscriber unit data packets onto a single channel for transmission to a wide area network. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to communicate with one or more stationary last hop nodes within the neighborhood cell to enable data packets transmitted on the data packet route to be multiplexed with other subscriber unit data packets onto a single channel for transmission to a wide area networkin order to access both ad hoc network and wireless network.

10. In the claim 12, Dehner discloses the switching over to ad hoc wireless network coverage upon entering into one of a neighborhood cell coverage hole and a neighborhood cell interference region (see col.).

However, Dehner is silent to disclosing to maintaining the data packet route to the destination unit upon entering into one of a neighborhood cell coverage hole and a neighborhood cell interference region.

Shibutani discloses to maintaining the data packet route to the destination unit upon entering into one of a neighborhood cell coverage hole and a neighborhood cell interference region ([004 2], to maintain communication)

Both Dehner and Shibutani disclose the wireless network. Shibutani recognizes maintaining the data packet route to the destination unit upon entering into one of a neighborhood cell coverage hole and a neighborhood cell interference region. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to maintain the data packet route to the destination unit upon entering into one of a neighborhood cell coverage hole and a neighborhood cell interference region in order to control packet latency.

11. Regarding to claim 13, Dehner discloses the limitations of claim 9 above.

However, Dehner is silent to disclosing periodically probing a plurality of neighboring mobile subscriber units to collect ad hoc wireless network coverage information while within the neighborhood cell.

Shibutani discloses periodically probing a plurality of neighboring mobile subscriber units to collect ad hoc wireless network coverage information while within the neighborhood cell ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150), switching over (from the network 150b to the network 150a).

Both Dehner and Shibutani disclose the wireless network. Shibutani recognizes probing a plurality of neighboring mobile subscriber units to collect ad hoc wireless network coverage information while within the neighborhood cell. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to probing a plurality of neighboring mobile subscriber units to collect ad hoc wireless network coverage information while within the neighborhood cell in order to access both ad hoc network and wireless network..

12. Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dehner et al. (U.S.Patent No. 6,882,677 B2) in view in view Shibutani (US 2002/0173303 A1), and in further view of Lewis (US 6,393,261)

Regarding to claim 16, Dehner discloses a source mobile subscriber unit including a transceiver for communication through wide area network coverage outside of the neighborhood cell, and for communicating through ad hoc wireless network coverage within the neighborhood cell; a destination unit including a transceiver for communicating through the wide area network coverage outside of the neighborhood cell, and for communicating through the ad hoc wireless network coverage within the neighborhood cell (col. 1, lines 25-35, handoff from one coverage area (cellular phone or ad hoc) to another that may be considered and present in and associated with wide

area networks (WANs) such as cellular phone systems have not been included in WLAN specification and systems....providing continuous service or WLAN access to user devices as they roam or more (handoff) through the coverage areas (cellular phone or ad hoc) of multiple network access points).

However, Dehner et al. is silent to disclosing a last hop node for defining a neighborhood cell; the last hop node further for causing the source mobile subscriber unit to communicate with the destination unit through the wide area network coverage when the source mobile subscriber unit is outside of the neighborhood cell and for causing the source mobile subscriber unit to communicate with the destination unit through the ad hoc wireless network coverage when the source mobile subscriber unit is within the neighborhood cell.

Shibutani discloses a last hop node for defining a neighborhood cell; the last hop node further for causing the source mobile subscriber unit to communicate with the destination unit through the cell coverage when the source mobile subscriber unit is outside of the neighborhood cell and for causing the source mobile subscriber unit to communicate with the destination unit through the neighborhood cell coverage when the source mobile subscriber unit is within the neighborhood cell ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on

the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150), switching over (from the network 150b to the network 150a) when the source mobile subscriber unit (MT 135) enters the cell 150a ([0042] when the module M1 becomes ready, the module M2 is switched to the module M1 to continue the communication) to maintain the communication between the source mobile subscriber unit and the destination unit ([0048], the network 150b may become necessary to make a call to the MT 135. A call from the network 150b is initiated by delivering a first packet from network 150b to the network 150a. The network 150a obtains the information on the current location of the MT 135 from the HLR and delivers the packet to the MT 135 through the nearby BTS 155 forms the cell in which the MT 135 is currently located).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizesa last hop node for defining a neighborhood cell; the last hop node further for causing the source mobile subscriber unit to communicate with the destination unit through the wide area network coverage when the source mobile subscriber unit is outside of the neighborhood cell and for causing the source mobile subscriber unit to communicate with the destination unit through the ad hoc wireless network coverage when the source mobile subscriber unit is within the neighborhood cell. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to provide a last hop node for defining a neighborhood cell; the last hop node further for causing the source mobile subscriber unit to communicate with the destination unit through the wide area network coverage

when the source mobile subscriber unit is outside of the neighborhood cell and for causing the source mobile subscriber unit to communicate with the destination unit through the ad hoc wireless network coverage when the source mobile subscriber unit is within the neighborhood cell in order to access both ad hoc network and wireless network.

However, the combined system (Dehner – Shibutani) are silent to disclosing a source mobile subscriber unit including a first source transceiver for communicating through wide are wireless network coverage outside of the neighborhood cell and a second source transceiver for communicating through ad hoc wireless network coverage within the neighborhood cell; a destination unit including a first destination transceiver for communicating through the wide are wireless network coverage outside of the neighborhood cell, and a second destination transceiver for communicating through the ad hoc wireless network coverage within the neighborhood cell.

Lewis discloses a first access point unit including a first source transceiver for communicating through a first communication channel coverage outside of the second communication channel coverage and a second transceiver for communicating through second communication channel coverage; a second access unit including a first transceiver for communicating through the first communication channel coverage outside of the second communication channel coverage, and a second transceiver for communicating through the second communication channel.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Dehner – Shibutani) with the teaching of

Lewis to provide a source mobile subscriber unit including a first source transceiver for communicating through wide are wireless network coverage outside of the neighborhood cell and a second source transceiver for communicating through ad hoc wireless network coverage within the neighborhood cell; a destination unit including a first destination transceiver for communicating through the wide are wireless network coverage outside of the neighborhood cell, and a second destination transceiver for communicating through the ad hoc wireless network coverage within the neighborhood cell in order to provide flexibility in operation based on the use of two or more radios.

13. In the claim 17, Dehner discloses the limitations of claim 16 above.

However, Dehner is silent to disclosing the last hop node is a subscriber unit located at a fixed position within the neighborhood cell.

Shibutani discloses the last hop node is a subscriber unit located at a fixed position within the neighborhood cell ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes the last hop node is a subscriber unit located at a fixed position within the neighborhood

cell. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to provide the last hop node is a subscriber unit located at a fixed position within the neighborhood cell in order to access both ad hoc network and wireless network.

14. In the claim 18, Dehner discloses the limitations of claim 16 above.

However, Dehner is silent to disclosing the last hop node is a mobile subscriber unit within the neighborhood cell that dynamically defines the neighborhood cell.

Shibutani discloses the last hop node is a mobile subscriber unit within the neighborhood cell that dynamically defines the neighborhood cell ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes the last hop node is a mobile subscriber unit within the neighborhood cell that dynamically defines the neighborhood cell. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with the teaching of Shibutani to provide the last hop node is a subscriber unit located at a fixed position

within the neighborhood cell in order to access both ad hoc network and wireless network.

15. In the claim 19, Dehner discloses the limitations of claim 16 above.

However, Dehner is silent to disclosing a plurality of subscriber units located within the neighborhood cell for providing the ad hoc wireless network coverage between the source mobile subscriber unit and the destination unit within the neighborhood cell.

Shibutani discloses a plurality of subscriber units located within the neighborhood cell for providing the ad hoc wireless network coverage between the source mobile subscriber unit and the destination unit within the neighborhood cell ([0029], BTS 155a transmits beacon signals to define a neighborhood cell A, BTS 155b transmits beacon signal to define a neighborhood cell B) (the MT searches fro candidate BTSs for hand-off by measuring the strength of the beacon signals from the surrounding BTSs); receiving the localized wireless coverage area identifying signal and determining (authorizes, authenticates) whether the source mobile subscriber unit is a subscriber on the neighborhood cell [0031], the BTS 155b makes an inquiry to the HLR as to whether the MT 135 is authorized to communicate within the network 150).

Both Dehner and Shibutani disclose ad-hoc network. Shibutani recognizes a plurality of subscriber units located within the neighborhood cell for providing the ad hoc wireless network coverage between the source mobile subscriber unit and the destination unit within the neighborhood cell. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dehner with

the teaching of Shibutani to provide a plurality of subscriber units located within the neighborhood cell for providing the ad hoc wireless network coverage between the source mobile subscriber unit and the destination unit within the neighborhood cell in order to access both ad hoc network and wireless network.

16. In the claim 20, the combined system (Dehner – Shibutani) disclose the limitations of claim 16 above.

However, the combined system (Dehner – Shibutanie) are silent to disclosing the last hop node is further for periodically probing the plurality of mobile subscriber units to collect ad hoc wireless network coverage information from each of the plurality of mobile subscriber units for use in establishing the ad hoc wireless network coverage.

Lewis discloses the last hop node is further for periodically probing the plurality of mobile subscriber units to collect wireless network coverage information from each of the plurality of mobile subscriber units for use in establishing the wireless network coverage (col. 3, lines 56-60, col. 6, lines 28-30, col. 6, lines 52-55, col. 11, lines 43-45).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Dehner – Shibutani) with the teaching of Lewis to provide periodically probing the plurality of mobile subscriber units to collect wireless network coverage information from each of the plurality of mobile subscriber units for use in establishing the wireless network coverage in order to provide flexibility in operation based on the use of two or more radios.

17. Regarding to claim 21, In the claim 20, the combined system (Dehner – Shibutani) disclose the limitations of claim 16 above.

However, the combined system (Dehner – Shibutanie) are silent to disclosing the last hop node is further for regulating data packet traffic between the source mobile subscriber unit and the destination unit during the ad hoc wireless network coverage. Lewis discloses the last hop node (the access point) is further for regulating data packet traffic between the source mobile subscriber unit and the destination unit during the ad hoc wireless network coverage (col. 3, lines 56-60, col. 6, lines 28-30, col. 6, lines 52-55, col. 11, lines 43-45).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Dehner – Shibutani) with the teaching of Lewis to provide the last hop node is further for regulating data packet traffic between the source mobile subscriber unit and the destination unit during the ad hoc wireless network coverage in order to provide flexibility in operation based on the use of two or more radios.

Allowable Subject Matter

1. Claims 4-8, 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ORGAD EDAN can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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HO CHUONG
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